

# Work Order ID 59881

Tuesday, June 15, 2010 1:41:50 PM



Page 1

Item ID: D2573

Revision ID:

Item Name: Saddle, Aft Out 205

Start Date: 6/15/2010 Start Qty: 12.00

Required Date: 6/30/2010 Req'd Qty: 12.00

Reference:

Accept



Setup

Start

Stop

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2573

Rev E

100



HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

0.00

Memo

0.00

Program Batch No. 59881 Double check by: *ML* ☐ 1-Machine Step  
No 1 per Folio FA051 and inspect per attached Dimension Sheets 2-Machine  
Step No 2 per Folio FA051 and inspect per attached Dimension Sheets ☐ 3-  
Machine Step No 3 per Folio FA051 and insp

*M.A 10/07/08*

NCR →

110



Mill Conv

Conventional Milling Machine

CONVENTIONAL MILLING MACHINE

0.00

Memo

0.00

Machine keyway as per dwg D2573 & D2574

*cf 10.7.12*

*M.A 10/07/13*

12

0

120



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00

*cf 10.7.12*

*M.A 10/07/13*

12

0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: Q2573 PAR #: \_\_\_\_\_ Fault Category: machining NCR: Yes No DQA: Yes Date: 1007-08  
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: Yes Date: 1007-19

NCR: 59881		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/07/08	100	Bad setup → saddle have a .100" dent here machined into it. The LH side vise was positioned 1/2" further back than the RH vise, that the part was being machined on. When it was machining the contour of the saddle, the LH vise hit the back wall, caused the plat form to move ahead, i. run the part into the tool. Vise was missing bottom stopper nuts. P.C. lack of attention	Resum	Install new stepper nuts on affected vise. Scrap & destroy 1 saddle. replace.	J.A. 10/07/08	10.7.11	Resum	1007-08
			Resum					
			Resum					

NOTE: Date & initial all entries

# Work Order ID 59881

Tuesday, June 15, 2010 1:41:50 PM



Page 2

Item ID: D2573

Revision ID:

Accept



Item Name: Saddle, Aft Out 205

Setup Start



Start Date: 6/15/2010 Start Qty: 12.00

Stop



Required Date: 6/30/2010 Req'd Qty: 12.00

Cust Item ID:

Reference:

Customer:



Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130



QC

Quality Control

QC8- Inspect parts - second check

0.00

*MW = 10/08/14*

Memo

0.00

*12 0*

140



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

*12 BR 10-7-13.*

150



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

*MW 11-1-14*

Memo

0.00

START TIME:

*3:30*

FINISH TIME:

*10:30*

OVEN TEMPERATURE:

*11:00*

*12 BR 10-7-15.*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 59881

Tuesday, June 15, 2010 1:41:50 PM



Page 3

Item ID: D2573

Revision ID:

Accept



Item Name: Saddle, Aft Out 205

Setup Start



Start Date: 6/15/2010 Start Qty: 12.00

Stop



Required Date: 6/30/2010 Req'd Qty: 12.00

Cust Item ID:

Reference:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160



QC

Quality Control

QC3- Inspect Part Finish

Memo

0.00

0.00

10/07/15

X12

Ø

170



Packaging

Packaging

Identify as per dwg & Stock Location: 434

Memo

0.00

0.00

10/17/16 (12)

180



QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

10-7-16  
MF

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

Tuesday, June 15, 2010 1:41:55 PM

Page 1

Work Order ID: 59881

Parent Item: D2573

Parent Item Name: Saddle, Aft Out 205



Start Date: 6/15/2010

Required Date: 6/30/2010

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP: I As Per RevE 06-01-27 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-007 Saddle Billet		Manufactured	No			100	Each	39.0000	1	12			



Location

MAT42

46412

58677

59621

Loc Qty

39

2

37

?

Loc Code

13.000

M.A 10/07/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



TO AMENDMENT

WITHOUT NOTICE  
BOOK ORDER

5988

RELEASED

05.17.16

MATERIAL: 7075-T7351 (QQ-A-250/12)  
FINISH: (REF DART SPEC. D6102-001)  
ACID ETCH, ALODINE PER DART QSI 005 4.1  
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER  
DART QSI 005 4.3  
BREAK ALL SHARP EDGES 0.010 TO 0.020  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 1 ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
- 2 ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125
- 3 CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)
- 4 CHAMFER 0.063" x 45° ALL AROUND
- 5 CHAMFER 0.033" x 45° (SEE DETAIL C)
- E


VIEW B-B

SECTION A--A

DETAIL C  
SCALE 4:3

COPYRIGHT © 2005 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL  
AND IS SUPPLIED ON THE EXPRESS CONDITION  
THAT IT IS NOT TO BE USED FOR ANY PURPOSE  
OR COPIED OR COMMUNICATED TO ANY OTHER  
PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE LTD.

DESIGN	DRAWN BY	NEW ISSUE	
DS	PH	 <b>DART AEROSPACE LTD.</b> MARKHAM, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. E
#	#	D2573	SHEET 1 OF 1
DATE		TITLE	SCALE
05.07.13		OUTER AFT SADDLE	3/4"

REV. E  
SHEET 1 OF 1  
SCALE  
2:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 59881
<b>Description:</b> Saddle, Aft Outboard		<b>Part Number:</b> D2573
<b>Inspection Dwg:</b> D2573 Rev. E		<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	0.438	0.443		NCR	.440	.440	.440		
B	1.745	1.755			1.750	1.750	1.750		
C	3.495	3.505			3.500	3.500	3.500		
D	1.745	1.755			1.750	1.750	1.750		
E	7.990	8.010			8.003	8.003	8.003		
F	0.490	0.510			.504	.504	.504		
G	0.257	0.262			.258	.258	.258		
H	0.375	0.380			.376	.376	.376		
I	0.490	0.510			.503	.503	.503		
J	1.174	1.184			1.179	1.179	1.179		
K	0.558	0.578			.568	.568	.570		
L	1.174	1.184			1.179	1.179	1.179		
M	1.365	1.375			1.370	1.370	1.370		
N	2.495	2.505			2.500	2.500	2.500		
O	4.119	4.129			4.124	4.124	4.124		
P	0.115	0.135			.128	.128	.128		
Q	0.115	0.135			.135	.135	.135		
R	0.240	0.260			.253	.253	.253		
S	0.115	0.135			.124	.124	.124		
T	0.178	0.198			.188	.188	.188		
U	3.210	3.250			3.230	3.230	3.230		
V	0.230	0.250			.240	.240	.241		
W	0.115	0.135			.125	.125	.125		
X	0.308	0.313			.310	.310	.310		
Y	0.760	0.765			.763	.763	.763		
Z	0.352	0.372			.370	.370	.370		
AA	0.470	0.530			.500	.500	.500		
AB	0.615	0.635			.628	.628	.628		
AC	0.053	0.073			.063	.063	.063		
AD	0.240	0.260			.248	.248	.248		
AE	1.500	1.520			1.516	1.515	1.515		
AF	0.115	0.135			.125	.125	.125		
AG	0.240	0.280			.260	.260	.260		
AH	0.240	0.260			.250	.250	.250		
AI	2.000	2.020			2.003	2.004	2.004		
AJ	0.023	0.043			.025	.025	.025		
Accept/Reject									

Measured by: AP  
Date: 07-10-14

Audited by: MS  
Date: 10/07/14

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 59881
<b>Description:</b> Saddle, Aft Outboard		<b>Part Number:</b> D2573
<b>Inspection Dwg:</b> D2573 Rev. E		<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions					
				5	6	7	8	9	
A	0.438	0.443		.440	.440	0.440	0.440	0.440	
B	1.745	1.755		1.750	1.750	1.750	1.750	1.750	
C	3.495	3.505		3.500	3.500	3.500	3.500	3.500	
D	1.745	1.755		1.750	1.750	1.750	1.750	1.750	
E	7.990	8.010		8.002	8.002	8.002	8.002	8.002	
F	0.490	0.510		.502	.502	0.501	0.501	0.502	
G	0.257	0.262		.258	.258	0.259	0.259	0.259	
H	0.375	0.380		.376	.376	0.376	0.376	0.376	
I	0.490	0.510		.507	.507	0.500	0.500	0.500	
J	1.174	1.184		1.179	1.179	1.179	1.179	1.179	
K	0.558	0.578		.568	.568	0.568	0.568	0.569	
L	1.174	1.184		1.179	1.179	1.179	1.179	1.179	
M	1.365	1.375		1.370	1.370	1.370	1.370	1.370	
N	2.495	2.505		2.500	2.500	2.500	2.500	2.500	
O	4.119	4.129		4.124	4.124	4.124	4.124	4.124	
P	0.115	0.135		.128	.128	0.128	0.128	0.128	
Q	0.115	0.135		.135	.135	0.135	0.135	0.135	
R	0.240	0.260		.253	.253	0.253	0.253	0.253	
S	0.115	0.135		.122	.122	0.123	0.123	0.123	
T	0.178	0.198		.188	.188	0.188	0.188	0.188	
U	3.210	3.250		3.229	3.229	3.229	3.229	3.229	
V	0.230	0.250		.241	.241	0.239	0.239	0.240	
W	0.115	0.135		.124	.124	0.123	0.123	0.124	
X	0.308	0.313		.310	.310	0.310	0.310	0.310	
Y	0.760	0.765		.762	.762	0.762	0.762	0.762	
Z	0.352	0.372		.370	.370	0.363	0.362	0.362	
AA	0.470	0.530		.500	.500	0.500	0.500	0.500	
AB	0.615	0.635		.627	.627	0.627	0.627	0.627	
AC	0.053	0.073		.058	.058	0.063	0.063	0.063	
AD	0.240	0.260		.253	.253	0.248	0.248	0.248	
AE	1.500	1.520		1.516	1.514	1.516	1.516	1.516	
AF	0.115	0.135		.125	.125	0.125	0.125	0.125	
AG	0.240	0.280		.260	.260	0.270	0.270	0.270	
AH	-0.240	0.260		.250	.250	0.247	0.247	0.247	
AI	2.000	2.020		2.004	2.003	2.004	2.004	2.004	
AJ	0.023	0.043		.025	.025	0.025	0.025	0.025	
Accept/Reject									

Measured by: <i>ad</i>
Date: 10.7.12

Audited by: <i>mj</i>
Date: 10/6/14

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 39881
<b>Description:</b> Saddle, Aft Outboard		<b>Part Number:</b> D2573
<b>Inspection Dwg:</b> D2573 Rev. E		<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				10	11	12	13		
A	0.438	0.443		0.440	0.440	0.440	0.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.002	8.002	8.002	8.002		
F	0.490	0.510		0.501	0.501	0.501	0.501		
G	0.257	0.262		0.259	0.259	0.259	0.259		
H	0.375	0.380		0.376	0.376	0.376	0.376		
I	0.490	0.510		0.501	0.500	0.500	0.500		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		0.569	0.568	0.569	0.569		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		0.128	0.128	0.128	0.128		
Q	0.115	0.135		0.135	0.135	0.135	0.135		
R	0.240	0.260		0.253	0.253	0.253	0.253		
S	0.115	0.135		0.123	0.123	0.123	0.122		
T	0.178	0.198		0.188	0.188	0.188	0.188		
U	3.210	3.250		3.229	3.229	3.229	3.229		
V	0.230	0.250		0.238	0.240	0.240	0.240		
W	0.115	0.135		0.125	0.125	0.125	0.125		
X	0.308	0.313		0.310	0.310	0.310	0.310		
Y	0.760	0.765		0.762	0.762	0.762	0.762		
Z	0.352	0.372		0.363	0.362	0.360	0.362		
AA	0.470	0.530		0.500	0.500	0.500	0.500		
AB	0.615	0.635		0.627	0.627	0.627	0.627		
AC	0.053	0.073		0.063	0.063	0.063	0.063		
AD	0.240	0.260		0.248	0.248	0.248	0.248		
AE	1.500	1.520		1.515	1.516	1.515	1.515		
AF	0.115	0.135		0.125	0.125	0.125	0.125		
AG	0.240	0.280		0.270	0.270	0.270	0.270		
AH	0.240	0.260		0.247	0.247	0.247	0.247		
AI	2.000	2.020		2.003	2.004	2.003	2.003		
AJ	0.023	0.043		0.025	0.025	0.025	0.025		
Accept/Reject									

Measured by: H.A.	Audited by: MJF
Date: 10/07/13	Date: 10/07/14

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	